

REMARKS

The specification was objected to as allegedly failing to provide proper antecedent basis for the claimed subject matter. The specification is hereby amended as described above to include the limitations of claim 5 as illustrated in Figure 6,. The specification is also hereby amended to include the limitations of amended claims 1 and 18, said limitations also illustrated in Figure 6.

Claim Rejections - 35 USC § 112

Claim 15 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention. As pointed out in the Office Action, in line 2 of claim 15, “the skin” lacked positive antecedent basis because this element was not previously recited in either of claims 5 or 15. Claim 15 is hereby amended to recite “The apparatus of claim 6” rather than “The apparatus of claim 5” as claim 6 includes antecedent basis for “the skin.”

Claim Rejections - 35 USC § 103

Claims 1–4 and 18 were rejected under 35 U.S.C. 103(a) as being unpatentable over Koboura (JP 06-078658) in view of Jones (U.S. Patent No. 5,030,086). This rejection is respectfully traversed.

Regarding claim 1, the Koboura states: “the above-ground part is tightly sealed.” Claim 1 is currently amended to limit the instant method to one utilizing an apparatus having an open inlet and wherein the hood is specifically not sealed due to the open inlet. The Koboura “rotary” could cause serious dust problems, exacerbated by the

drying effect of the hot air. Sealing the hood of the Koboura unit helps to keep this problem to a minimum. The instant invention is not limited to a roto-tiller in combination with a flamer, hence it is not a necessary step in the method to seal the hood. The advantages of *not* needing to seal the unit include cheaper manufacture and less care in operation.

To clearly distinguish the instant invention from that of Jones, claim 1 is also currently amended to include sterilizing the surface on which the flamer is operatively supported. The flamer of Jones is supported on the ground, whereas the flames are directed to plants, and not to the ground at all. Therefore, the flamer of Jones does not sterilize the surface engaged by the skids S.

It should be noted that the statement made in the Office Action: “As both Jones and Koboura are used for flame cultivation...” is categorically untrue. The apparatus of Koboura is used for sterilizing soil. It is wholly unsuited for flame cultivation. Hence, the basis for the observation alleged by the Office Action: “...as Jones evidences the common use of skids as a means to support the weight of crop treatment devices, they would have been an obvious addition to the invention of Koboura,” is invalid.

Therefore, it would not have been obvious to one of ordinary skill in the art to modify the method of Koboura with the method of Jones to achieve the limitations of amended claim 1.

Regarding claim 2, the Office Action does not allude to how Koboura in view of Jones teach the limitations of claim 2. However, Neither Koboura nor Jones disclose a method whereby the flamer is moved about the surface being sterilized.

With regard to claim 4, the Office Action states: ‘...it is noted that the term “adjustable” only requires the ability to be adjusted and does not require an express teaching by the reference to be “adjustable”. As the entire apparatus of Koboura is capable of being tilted upwards by merely pressing down on the hitch, resulting in the “adjusting” of the burner angle, the burner angle of Koboura is “adjustable” during sterilization.’ The Office Action, though stating it, fails to take into account the limitation of claim 4 “a burner angle is adjustable *during sterilization*” (emphasis added). The apparatus of Koboura cannot be tilted by “pressing down on the hitch” while “the above ground part is tightly sealed.” Further, the roto-tiller portion of the Koboura apparatus would be pulled out of the ground at which time no sterilization would be effected. The Koboura disclosure also states that the flame is “trapped in the rotary.” Therefore, the adjustment of which the Office Action alleges the Koboura apparatus is capable cannot be carried out during sterilization.

Therefore, it would not have been obvious to modify the Koboura method with the method of Jones to provide adjustable flame direction. Nonetheless, claim 4 is currently amended to include the limitation that the burner angle is “relative to the hood.” Neither Koboura nor Jones disclosed an adjustable burner angle relative to the hood.

Claim 18 is currently amended to include an open inlet such that the flamer hood is not sealed to the surface. Amended claim 18 clearly does not read on Koboura. Therefore, it would not have been obvious to modify the apparatus of Koboura with the apparatus of Jones (which has no bearing on claim 18, anyway) to sterilize a surface.

Claims 5 and 11–14 were rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (U.S. Patent No. 5,030,086). This rejection is respectfully traversed.

Claim 5 is currently amended to limit the skids to be operatively engaged to the surface to be sterilized. The flame of Jones is directed to plant matter due to its purpose of flame cultivation. The surface of the plant matter in no way supports the skids of Jones.

Claim 12 is currently amended to include the limitation of a pivot to adjust the burner angle relative to the hood. Jones did not disclose adjusting the burner angle relative to the alleged hood.

Claim 13 is currently amended to include the limitation of engaging the skids to the surface to be sterilized. The surface of the plant matter in no way supports the skids of Jones.

Claim 6 was rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (U.S. Patent No. 5,030,086) as applied to claim 5 above, and further in view of Benjamin (US Patent No. 5,826,371). This rejection is respectfully traversed.

Rejections based on obviousness are to be without benefit of hindsight. The burner housing (11) of Jones, made without a frame was evidently quite adequate for the purpose intended by Jones. The structure and operation of the Jones flamer is entirely different from the Benjamin flamer. The burner housing of Jones does not appear to have lacked in strength or rigidity. There was no suggestion there was an advantage to adding an accessory to the burner housing, requiring a frame for attachment thereto. There is no motivation to add the square tubes (33) of the Benjamin flamer to the Jones flamer. Certainly, there is no teaching in either document to suggest such a modification would improve the Jones flamer.

Therefore, lacking any motivation or teaching, it would not have been obvious to one of ordinary skill in the art to modify the Jones flamer with the square tubes of Benjamin.

Claims 10, 15, and 16 were rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (U.S. Patent No. 5,030,086) as applied to claim 5 above, and further in view of Koboura (JP 06-078658). This rejection is respectfully traversed.

With regard to claims 15 and 16, there is no motivation to insulate or shield the burner housing (11) of Jones. The Jones did not disclose a fuel tank, nor any other combustible object, near the burners. The burner housing of Jones acts to reflect the radiant energy. The “heat loss,” as suggested in the Office Action as a motivation for insulation is negligible in such burners. Therefore, it would not have been obvious to one of ordinary skill in the art to modify the burner of Jones with insulation of Koboura.

Claim 17 was rejected under 35 U.S.C. 103(a) as being unpatentable over Opfel (Published U.S. Patent Application No. 2003/0192485). This rejection is respectfully traversed.

It is respectfully submitted that that a *skid* as defined in the Office Action: “a small platform for stacking merchandise to be moved *or temporarily stored*” is wholly unsuitable for either the instant invention or the apparatus of Opfel. Such a skid would, by definition, lie between the burner and the poultry litter, making either flamer ineffective in heating the poultry litter. The Office Action alleges: “Thus, a skid would have fulfilled the requirements of the apparatus of Opfel exceedingly well.” A requirement of the Opfel method is not to set fire to skids. No one of ordinary skill in this art would find *any* motivation or teaching to set the flamer on such a skid, as burning the skid would be the result. Therefore, it would *not* have been obvious to one

of ordinary skill in the art to utilize a skid as defined in the Office Action on which to set the flamer.

However, as the Office Action clearly states, the method of Opfel is performed *in situ*. Therefore, claim 17 is currently amended to include the limitation of moving the flamer over the surface. As the Opfel apparatus is made to be stationary and to move the poultry litter through the machine, there would be no motivation to move that apparatus over the surface of the poultry litter.

It would not have been obvious to one of ordinary skill in the art to move the stationary device of Opfel over the surface of the poultry litter.

Claims 10 and 11 are currently amended to correct typographical errors. In each of these two claims, the word –operably– is replaced with –operatively–.

As it is assumed independent claims 1, 5, 17, 18 and 21 are now allowable, the claims depending on these independent claims are also now assumed allowable.

For the above reasons, the Applicant is of the opinion that all claims 1–21 are now allowable, and a notice to that effect is earnestly solicited.

Respectfully submitted,
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Insulation **310** over the skin **140** is shown in **Figs. 3** and **8**, and is an optional aspect for this invention. Because the frame is external to the skin **140**, the frame is exposed to less radiant heat transfer, reducing the problems such as oxidation and fatigue caused by high temperatures and thermal cycling. In addition, the flamer **100** can be insulated while maintaining a reflective surface inside the flamer because frame **130** members are not in the way.

The skin **140** substantially contains the high temperature gases, protecting the surroundings and concentrating the heat to the material to be sterilized. Insulation **310** over the skin provides additional protection.

Adjustable skids **150** are used to maintain an appropriate height above the litter or other material **710** (see **Fig. 7**) to be sterilized. The weight of the flamer **100** may be shifted between the tractor hitch **105** and the skids **150**, as needed. The flamer **100** is picked up with the tractor hitch **105** and carried off the surface for transport, cooling, etc.

An additional embodiment is shown in **Fig. 5** wherein the flamer **100** is carried on wheels **510** and drawn behind the tractor **110** by its tongue **520**. The wheels may be drawn up, allowing the flamer **100** to rest on its skids **150** when in use. One advantage to this embodiment is that the flamer **100** may be towed behind any of a multitude of vehicles such as a truck, four-wheeler, or tractor.

The underside of the tractor-mounted flamer **100** is shown in **Fig. 6**. A front, or inlet, and a rear, or discharge, of the tractor-mounted flamer 100 are open to the ambient. A plurality of burners **610** are arrayed across the front of the flamer **100**, the angles of which are adjustable, as shown by the dashed lines. In use, each of the plurality of burners 610 is oriented so that a flame emanating therefrom is directed in a substantially horizontal direction. A barrier **620** may optionally be provided to assist in concentrating the heat, containing the gases, and protecting the surroundings. An additional option is shown as a set of rake teeth **630** to loosen and stir the material **710** being sterilized.

The flamer **100** of the present invention is shown in operation in **Fig. 7**. The surface material **710** being sterilized may be poultry litter, other livestock manure, soil, concrete, etc. The preferred method of sterilizing poultry litter using this invention includes the steps of holding poultry in confinement such that litter accumulates to form a surface; transporting a flamer to the litter surface; setting the flamer on skids on the